

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF PENNSYLVANIA

JILL STEIN, RANDALL REITZ, ROBIN
HOWE, SHANNON KNIGHT, and EMILY
COOK,

Plaintiffs,

-against-

KATHY BOOCKVAR, in her official capacity as
Acting Secretary of the Commonwealth; and
JONATHAN MARKS, in his official capacity as
Commissioner of the Bureau of Commissions,
Elections, and Legislation,

Defendants.

No. 16-CV-6287 (PD)

PLAINTIFFS' PROPOSED FINDINGS OF FACT

Emery Celli Brinckerhoff & Abady LLP
600 Fifth Avenue, 10th Floor
New York, New York 10020
(212) 763-5000

Montgomery McCracken Walker & Rhoads LLP
1735 Market Street
Philadelphia, PA 19103
(215) 772-1500

Pursuant to the Court's Order dated February 21, 2020, Dkt. #171, Plaintiffs submit the following proposed findings of fact¹:

MERITS

1. The parties' Settlement Agreement ("Agreement"), dated November 28, 2018, requires: "The Secretary will only certify new voting systems for use in Pennsylvania if they meet these criteria: (a) The ballot on which each vote is recorded is paper; (b) They produce a voter-verifiable record of each vote; *and* (c) They are capable of supporting a robust pre-certification auditing process." JX 30 ¶ 2 (emphasis added).

2. In paragraph three, the Agreement also requires the Secretary to ensure "that every Pennsylvania voter in 2020 uses a voter-verifiable paper ballot." JX 30 ¶ 3.

3. After the Agreement was fully executed on November 28, 2018, the Secretary certified a "new voting system[]" for use in Pennsylvania": the Election Systems & Software ("ES&S") ExpressVote XL (the "XL"). Stip ¶ 43; JX 34.

4. The Agreement was "the result of a careful negotiation and drafting process among the parties." 2/18 Tr. 12:19-21 (Boockvar). Defendants looked at the Agreement "very carefully" before signing. The Agreement was reviewed by the Attorney General, the Department of State, the Governor's designee, and multiple counsel for Defendants. 2/18 Tr. 13 (Boockvar).

5. As set forth below, the XL violates all three requirements of the Agreement.

¹ Transcripts from the evidentiary hearing are referred to by date and page. "JX" refers to joint exhibits in evidence. "PX" refers to Plaintiffs' exhibits in evidence. "DX" refers to Defendants' exhibits in evidence. "Stip" refers to the stipulations previously submitted to the Court by the parties, and reattached here as Exhibit A.

The XL Does not Produce a “Paper Ballot”

6. The XL produces a piece of paper that looks like JX 57.

7. That paper, at least as intended, lists the selections the voter made on the screen. *Id.*

8. That paper does not list contest options. For example, in a presidential race between “John” and “Mary” in which the voter picks Mary, the paper (again, working as intended) would only say “Mary.” John’s name would not be listed. *Id.*; 2/18 Tr. 17:15 (Boockvar).

9. This piece of paper, called a “summary card” or “ballot card” (for reasons set forth below), is not a “paper ballot” as required by the Agreement, for the following nine reasons.

10. **First**, *before* Plaintiffs’ motion to enforce the Agreement, Defendants and their counsel repeatedly admitted that the XL document is a summary card, not a paper ballot.

11. For example, on September 3, 2019, Acting Secretary Boockvar signed an official **recertification** on behalf of the Department of State, permitting counties such as Philadelphia to use the XL. JX 45.

12. In this “official document” permitting counties to use the XL, 2/18 Tr. 26 (Boockvar), Defendants refer to the XL’s paper record as a “vote summary record” approximately 20 times. *See, e.g.*, JX 45 at 3 (“[The XL] prints the voter’s choices on a voter-verifiable paper vote summary record and saves an image of the printed vote summary record. The vote summary record is the voter-verifiable paper record with plain text words of the votes to be cast.”); *id.* at 3 fourth bullet point (“vote summary records”); *id.* at 7 ¶ 1 (“paper vote summary record,” “vote summary record,” “[t]he voter reviews and verifies the vote summary

record,” “deposits the printed vote summary record,” “allows the vote summary record to pass to the collection bin”), *id.* at 7 ¶ 2 (vote summary record); *id.* at 7 ¶ 3 (“paper vote summary record”); *id.* at 9 ¶ 2 (“paper vote summary records,” “randomize vote summary records”); *id.* at 9 § C (“paper vote summary record”); *id.* at 10 § 2 (“spoiling a vote summary record”); *id.* at 11 § B (“vote summary record,” “view of the paper vote summary record”); *id.* at 12 ¶ 1 (“spoiling the vote summary record,” “view of the vote summary record”).

13. The Secretary’s recertification report never refers to the XL document as a “ballot,” much less a “paper ballot.” JX 45 *passim*.

14. In its **original certification** of the XL on November 30, 2018, Defendants again referred repeatedly to the XL document as a “vote summary card.” JX 34 at 5 ¶ 2 (“allowing all voters to cast vote summary card,” “[t]he voter can print the vote summary card,” “[o]nce printed, the ExpressVote XL internally processes the vote summary card for tabulation”); *see* 2/18 Tr. 144-45 (Boockvar).

15. In contrast, when a ballot-marking device (“BMD”) produces a paper ballot, *i.e.*, a piece of paper with contest options, the Secretary refers to the document as a “ballot” or “paper ballot.”

16. For example, the Clearballot Clearvote 1.5 is a BMD that creates a paper ballot with contest options. Stip ¶ 99; JX 52; 2/18 Tr. 21-22 (Boockvar).

17. On March 22, 2019, the Secretary signed an “official certification” drafted and created by the Department of State for the Clearballot. PX 1002; 2/18 Tr. 18 (Boockvar).

18. That “official certification” repeatedly refers to the Clearballot document (JX 52) as a “ballot” or “paper ballot.” PX 1002. *See, e.g.*, PX 1002 at 6 ¶ 1 (“its output is a marked paper ballot”); *id.* at 6 ¶ 2 (“processes hand-marked paper ballots”); *id.* at 21 ¶ 1 (“mark

their ballot, printing their ballot,” “scanning their printed ballot,” “cast the ballot”); *id.* at 22 last par. (“used the same ballot”); *id.* at 23 third bullet point (“Voting a ballot”); *id.* at 23 second to last bullet point (“marked a ballot”); *see also* 2/18 Tr. 19-21 (Boockvar) (admitting to the above).

19. As another example, the Hart Verity Touch Writer is a BMD that creates a paper ballot with contest options. Stip ¶ 107; JX 60; 2/18 Tr. 24:24 (Boockvar).

20. On June 13, 2019, the Secretary signed an “official certification” drafted and created by the Department of State for the Hart Verity Touch Writer. PX 1006; 2/18 Tr. 18 (Boockvar).

21. That “official certification” repeatedly refers to the Hart Verity Touch Writer document (JX 60) as a “ballot,” because it is a ballot. *See, e.g.*, PX 1006 at 6 ¶ 2 (“The printed ballot with voter selections”).

22. In Defendants’ **first meet-and-confer response** to Plaintiffs’ notice of violation of the Agreement, defense counsel again repeatedly referred to the XL document as a “vote summary record” or “paper record,” *not* as a ballot or paper ballot.

23. For example, Tim Gates (who, in addition to being a witness at the hearing and Chief Counsel for the Department of State, remains counsel of record in this case) wrote on September 12, 2019 that “The XL device prints a paper vote summary record.” JX 47 at 1 ¶ 1; *see id.* (“spoil his or her paper record,” “the paper record is capable”); 2/18 Tr. 169-70 (Gates).

24. At no point in the letter did Gates refer to the XL document as a ballot or paper ballot. 2/18 Tr. 170:18-22; JX 47.

25. **Again on October 30, 2019**, Gates wrote a letter on behalf Defendants describing the XL document as “a paper vote summary record,” a “vote summary record,” or a

“paper record,” *eight* times. JX 49 (*e.g.*, “The XL prints the voter’s choices on a paper vote summary record using the thermal printer.”); 2/18 Tr. 171-73 (Gates).

26. Gates admits “I chose my words carefully” in that letter, which was an official legal response by Defendants on the cusp of potential litigation. 2/18 Tr. 173:22 (Gates).

27. Again, not once did Gates refer to the XL document as a ballot or paper ballot. *Id.* at 174; JX 49.

28. Even **at the hearing**, Defendants referred to the XL document as a “vote summary card.” 2/18 Tr. 33:21-23 (Boockvar) (“Q: Joint Exhibit 57, Secretary, is the vote summary card generated by the XL, correct? A: Correct.”).

29. Though Boockvar claimed that she used the word “ballot” for paper generated by all BMDs “all the time,” 2/18 Tr. 20:18, that is not true. *Pre-motion*, Boockvar and Defendants repeatedly called the XL paper a “summary card.”

30. **Second**, and in contrast to Defendants’ repeated admissions that the XL produces a vote summary record or vote summary card, there is no evidence that Plaintiffs or Plaintiffs’ counsel *ever* called the paper produced by an XL a ballot or a paper ballot. *See* Transcript of hearing and all exhibits in evidence, *passim*.

31. **Third**, in every voting context used by the Secretary other than this motion, paper ballots contain contest options. Every type of paper ballot used by Defendants contains contest options.

32. For example, Boockvar admitted that absentee ballots are “paper ballots” and “contain contest options.” 2/18 Tr. 33 (Boockvar). Defendants would never send a document in the form of JX 57 to an absentee voter. *Id.* at 33-34.

33. As another example, Boockvar admitted that provisional ballots are “paper ballots” and “contain contest options.” 2/18 Tr. 34 (Boockvar).

34. **Fourth**, Plaintiffs’ contemporaneous understanding of the term “paper ballot” is reflected in Plaintiffs’ mediation memo to Judge Rice, dated September 26, 2018. There, Plaintiffs wrote: “Only a paper ballot—whether marked by the voter’s hand, or with a machine called a “ballot marking device”—ensures that the result counted by the machine can be verified against a physical record of the voter’s true choice.” JX 23 at 2; *see* Stip ¶ 31.

35. Whether the contest options are “marked by the voter’s hand,” or with a “ballot marking device,” the document is the same: a paper ballot.² JX23 at 2.

36. **Fifth**, as Defendants admitted after some prevarication, the XL document is not a “paper ballot” within the meaning of the Pennsylvania Election Code. 2/18 Tr. 141:4-10 (Boockvar); *see* 25 P.S. § 3031.1.

37. The Agreement contains a Pennsylvania choice of law clause, JX 30 ¶ 12, inserted by the Defendants in the first draft of the Agreement, JX 29 (email of first draft from Unger to Maazel).

38. The final, executed term sheet did not have a choice of law clause. JX 27; 2/18 Tr. 167:10-15 (Gates).

39. Even absent a Pennsylvania choice of law clause, the definition of “paper ballot” in the Pennsylvania Election Code is relevant to the parties’ understanding of the term “paper ballot,” in a legal agreement signed by an entity whose purpose and mission is to apply and enforce the Pennsylvania Election Code.

² There is no dispute that all paper ballots filled out by hand contain contest options. *See* JX 51, 53, 55, 58, 61.

40. At the hearing, Defendants relied on a definition of “paper ballot” in a report called “Securing the Vote,” DX F (excerpt); PX 1019 (full), but they never shared that definition with Plaintiffs, 2/18 Tr. 146:19-23 (Boockvar), and there is no contemporaneous evidence that that definition had any role in the drafting or negotiation of the Agreement.

41. Boockvar also claimed to be unfamiliar with the National Institute of Standards and Technology (NIST) definition of paper ballot, PX 1010, even though NIST “assists the Election Assistance Commission with the development of voluntary voting system guidelines,” PX 1011, and the EAC must certify every voting system in the country, 2/18 Tr. 32:7-16 (Boockvar).

42. It is undisputed that the XL does not meet the NIST definition of paper ballot. 2/18 Tr. 149:7 (the Court).

43. **Sixth**, though Defendants tried at the hearing to conflate the meaning of “voter-verifiable record of each vote” with paper ballot, the Agreement and Defendants’ own testimony say otherwise.

44. Before the Agreement, Defendants did not require voting systems to use *both* a verifiable record of a vote and a paper ballot. To the contrary, Defendants admitted that they only required one *or* the other.

45. For example, in a February 9, 2018 official directive “concerning the purchase of electronic voting systems,” Defendants required that voting systems “be of the type that employs a voter-verifiable paper ballot *or* a voter-verifiable paper record of the votes cast by a voter.” JX 1; 2/18 Tr. 64:12-23 (Boockvar).

46. On June 12, 2018, the Secretary again issued a directive requiring that voting systems “be of the type that employs a voter-verifiable paper ballot *or* a voter-verifiable paper record of the votes cast by a voter.” JX 7 at 2 § (2)(2); 2/18 Tr. 74 (Boockvar).

47. On September 28, 2018, Defendants’ lead counsel Sue Ann Unger admitted in an email to Plaintiffs’ counsel that Defendants only required “a voter-verifiable paper ballot *or* a voter-verifiable paper record of the votes cast by a voter.” JX 14; 2/18 Tr. 64:2-7 (Boockvar).

48. In contrast, by its plain terms, and by the plain meaning of the word “and,” the Agreement contains three *separate* requirements: paper ballot, voter-verifiable record of each vote, *and* capable of supporting a robust pre-certification auditing process. 2/18 Tr. 15:10 (Boockvar) (“Q: A and B and C are each *separate* requirements that the Defendants must meet, correct? A: Yep.” (emphasis added)).

49. As even Boockvar admitted, “you can have a voter verifiable record of a vote that is not a paper ballot.” 2/18 Tr. 15:20.

50. The XL summary card (assuming it were voter-verifiable, which it is not) is such an example. It is a record of a vote, but not a paper ballot.

51. **Seventh**, as Defendants repeatedly admitted, the paper ballot requirement in the Agreement was a step *further* than what the Secretary required before the Agreement.

52. For example, Defendants’ Chief counsel Tim Gates testified that, the first he discussed settlement with Plaintiffs’ counsel (in the hallway outside Judge Diamond’s chambers), he stated to Plaintiffs’ counsel: “The department is moving in the direction that I think you guys are going to be pleased with.” 2/18 Tr. 179:21; *id.* at 180 (“the department was on a path”); *id.* at 181 (“we were heading in the same direction,” “we talked to you about the

direction that we were in”); *id.* at 234:16-17 (“we were on the path”); 2/18 Tr. 15 (Boockvar) (Agreement was “a continuation of the path that we were already on”).

53. Defendants were moving “in the direction” of and “on the path” towards paper ballots, but only after the Agreement did Defendants arrive at the destination at the end of that path: a written commitment to paper ballots.

54. **Eighth**, the fact that Defendants had *not*, pre-settlement, yet agreed to paper ballots, is reflected in the one and only contemporaneous, written document to discuss the point: Plaintiffs’ mediation memo. JX 23.³

55. The memo, dated September 26, 2018, states: “Defendants have expressed some openness, in principle, to Plaintiffs’ proposal that all newly certified machines include paper ballots.” *Id.* at 2 ¶ 3. In short, as of September 26, 2018, Defendants had *not* yet agreed to “paper ballots”: only with the Agreement did Defendants finally agree.

56. **Ninth**, the Agreement states that “[a] VVPAT receipt generated by a DRE machine is not a paper ballot.”⁴ JX 30 at 2 n.3. But the XL document is functionally indistinguishable from a VVPAT receipt.

57. From the voter’s perspective, the ExpressVote XL and a direct-recording electronic voting system with a voter-verified paper audit trail (“DRE with VVPAT”) work exactly same way. 2/19 Tr. 273:4-276:12 (Baumert).

58. Assuming the voter is not using assistive technology to accommodate a disability, the voter presses a button on the touchscreen to make his or her selections. *Id.* at 273:19-274:1 (Baumert) (DRE with VVPAT); *id.* at 275:2-5 (ExpressVote XL).

³ JX 23 is admitted for its truth. No limitations were placed on its admissibility. 2/18 Tr. 5.

⁴ VVPAT stands for “voter-verifiable paper audit trail.”

59. Next, unbeknownst to the voter, the voter's selections are temporarily recorded in the memory of the machine. *Id.* at 274:2-12 (Baumert) (DRE with VVPAT); *id.* at 275:6-9 (ExpressVote XL).

60. Next, a receipt is displayed to the voter showing his or her choice. *Id.* at 274:12-17 (Baumert) (DRE with VVPAT); *id.* at 275:13-15 (ExpressVote XL).

61. Next, the voter has an opportunity to review the receipt to see whether what is printed on it matches his or her intent. *Id.* at 274:18-20 (Baumert) (DRE with VVPAT); *id.* at 274:18-20 (DRE with VVPAT); *id.* at 275:16-18 (ExpressVote XL).

62. Next, the voter presses a button on the touchscreen to confirm his or her selections. *Id.* at 274:21-22 (Baumert) (DRE with VVPAT); *id.* at 275:23-25 (ExpressVote XL).

63. Next, the vote is cast and permanently recorded in the machine's memory. *Id.* at 274:23-275:1 (Baumert) (DRE with VVPAT); *id.* at 276:1-5 (ExpressVote XL).

64. The only difference between the two is that, after the voter makes his selections on the screen and before the receipt is displayed, the ExpressVote XL prints the selection on the receipt and instantaneously scans what it has just printed. *See id.* at 275:10-12, 277:22-278:1 (Baumert).

65. This difference between the ExpressVote XL and a DRE with VVPAT is an engineering hack that makes no difference to the security of the system or the voter's experience. *Id.* at 10:25-11:6 (Halderman).

66. A DRE with VVPAT is a single machine that is used for casting the vote, recording the vote, and tabulating the vote. *Id.* at 6:6-11 (Halderman).

67. The ExpressVote XL is a single machine used for casting the vote, recording the vote, and tabulating the vote. *Id.* at 6:18-7:1 (Halderman); *id.* at 157:18-23 (“all-in-one” machine).

68. Audits can be conducted on DREs with VVPATs—hence the term “audit trail”—by comparing results on the paper receipts with the results reported by the machine. *See id.* at 12:1-9 (Halderman).

69. Audits can be conducted on the ExpressVote XL by comparing results on the paper summary card with the results reported by the machine. *Id.* at 74:16-75:15 (Halderman).

70. **In sum**, Defendants’ repeated party admissions, the absence of such admissions by Plaintiffs, the definitions in the Election Code, the parties’ negotiations and contemporaneous writings all show that the parties intended the term “paper ballot” in the Settlement Agreement to refer to a piece of paper with contest options. *See supra* ¶¶ 6-69.

71. The XL undisputedly does not use a “paper ballot” within that definition. JX 57.

It Is Undisputed: the XL Does not Produce a Voter-Verifiable Record of Each Vote

72. As Boockvar admitted, “voter-verifiable means verifiable by the voter,” not by an auditor. 2/18 Tr. 35.

73. Boockvar also admitted: “what the voter is supposed to verify under the settlement agreement is their vote.” *Id.*

74. The XL produces barcodes and words. JX 57; 2/18 Tr. 35-36 (Boockvar).

75. The XL counts the barcodes as the vote. The XL does not count the words. 2/18 Tr. 36 (Boockvar); *id.* at 156:21-23 (“The Court: What is counted is the barcode, correct? A: Correct.”).

76. The voter cannot verify that the barcode reflects their vote. As Boockvar conceded: “Q: Can the voter verify that the barcode reflects that voter’s vote? A: Without a reader, no.” 2/18 Tr. 37:5-7.⁵

77. Defendants’ only apparent response is that, even though the XL does not produce a voter-verifiable record of each vote, neither do other voting systems.

78. Leaving aside whether this argument is legally satisfactory, it overlooks plain distinctions between the XL document and a typical paper ballot with ovals filled in by hand or with a BMD. With respect to the XL, “nothing that the voter has seen is ever being read by . . . the machine,” 2/19 Tr. 26:9-15 (Halderman), whereas with respect to ovals next to voter choices, “the mark that the machine is reading is one that the voter has been able to directly verify with their own senses,” *id.* 26:16-20 (Halderman).

79. In other words, while ordinary optical scanners may use bar codes, timing marks, or QR codes to *interpret* a human-readable vote, the human-unreadable bar code *is* the vote on the XL.

The XL Is Not Capable of Supporting a Robust Pre-Certification Auditing Process

80. Post-election audits compare the results tabulated by the voting system with the voter choices reflected on a sample of paper records. 2/19 Tr. 74-76 (Halderman).

81. The parties’ intent in requiring that voting systems certified by the Secretary be capable of robust pre-certification auditing was to ensure that any malfunction or

⁵ Voter are not provided barcode readers. 2/18 Tr. 36:25 (Boockvar).

malfeasance that could affect the integrity of an election result would be caught. JX 23 at 2; 2/18 Tr. 100 (Boockvar).

82. The primary reason for having audits at all is that all voting systems are hackable. 2/19 Tr. 173:9-15 (Halderman); *id.* at 263:2-8 (Baumert).

83. An audit is only as good as the integrity of the paper record being audited. *Id.* at 263:2-13 (Baumert).

84. An audit will only catch a discrepancy if the paper record accurately reflects the voter's intent. *Id.*; *id.* at 27-29 (Halderman).

85. This is one reason why it is critical to have a paper record of the vote that cannot be modified by computer error or attack. 2/19 Tr. 173:9-15 (Halderman).

86. Such paper records include paper ballots filled out by hand and fed into an optical scanner, and paper ballots printed by a BMD and fed into an optical scanner.

87. Most BMDs produce a piece of paper that the voter then feeds into an optical scanner. 2/18 Tr. 201:14-22, 202:15-23 (Gates); *see also* 2/19 Tr. 14:20-24 (Halderman).

88. The XL, however, does not give the voter a piece of paper at all. Instead the paper, after it is in theory verified by the voter through a pane of glass, "goes past the printhead" before it is officially counted. *Id.* at 202:10-12 (Gates).

89. All electronic voting systems can be hacked.

90. Dr. Halderman is a leading expert on voting security. He has testified on the topic before Congress and was appointed by Michigan's Secretary of State to serve on the state's Election Security Advisory Commission. 2/19 Tr. 4 (Halderman).

91. Defendants produced no expert on voting security, either in written submissions or at the evidentiary hearing.

92. Instead, Defendants called Dean Baumert, a “product manager” for ES&S, which stands to lose nearly \$29 million from Philadelphia alone if the Court grants Plaintiffs’ motion. 2/19 Tr. 177:3-5 (Baumert); PX 1004 at 4 (amount of contract \$28,959,502). Though Baumert claimed not to know that ES&S would lose tens of millions of dollars, he did acknowledge that a loss “would not be good for business” or “for the reputation of the machine or the company.” 2/19 Tr. 293-94 (Baumert).

93. Baumert has no expertise in computer or voting security, no degree in computer science, and no history of publishing peer-reviewed research in the field; in short, he is not an expert. *Id.* at 269.

94. But even Baumert acknowledged that hacking is possible with all types of electronic voting systems. *Id.* at 241:3-6 (“there are a number of different ways where . . . attacks are possible”).

95. Baumert also acknowledged that paper records are critical “until such time as there is technology available to make paperless voting secure and verifiable.” *Id.* at 259:6-12.

96. In other words, Baumert admits that there currently *is* not “technology available to make paperless voting secure and verifiable.” *Id.*

97. Apart from hacking, Baumert acknowledges that both “hardware malfunction” and “software malfunction” happen notwithstanding ES&S’s “best efforts.” *Id.* at 262:4-12.

98. That all electronic voting systems can be hacked is also the consensus view of the National Academies of Science, Engineering, and Medicine, reflected in the “Securing the Vote” report admitted as PX 1019. *See* 2/19 Tr. 172:20-173:6 (Halderman).

99. Notwithstanding that they never shared it with Plaintiffs and that it never informed the parties' negotiations, *see supra* ¶ 40, Defendants claim to have relied on the "Securing the Vote" report in developing the "path" they were pursuing before the Settlement Agreement. 2/18 Tr. 86:25-87:10 (Boockvar).

100. All election systems have vulnerabilities. 2/19 Tr. 263:23-24 (Baumert).

101. "Malware—malicious software that includes worms, spyware, viruses, Trojan horses, and ransomware—is perhaps the greatest threat to electronic voting." PX 1019 at 86.

102. "Malware can be introduced at any point in the electronic path of a vote—from the software behind the vote-casting interface to the software tabulating votes—to prevent a voter's vote from being recorded as intended." PX 1019 at 86-87; 2/19 Tr. 169-71 (Halderman).

103. "Malware is not easily detected." PX 1019 at 87.

104. Malware "can be introduced into systems through software updates, removable media with ballot definition files, and through the exploitation of software errors in networked systems." *Id.*

105. Malware "may also be introduced by direct physical access, e.g., by individuals operating inappropriately at points during the manufacturing of the election system or at the level of elections offices." *Id.*

106. The XL differs from most ballot-marking devices in that it provides an opportunity for the software to tamper with the paper record after the voter has had the chance to review it.

107. It is atypical for a ballot-marking device to be designed such that a paper record passes back past the printhead after printing. 2/19 Tr. 14:20-24 (Halderman).

108. A sophisticated attacker could introduce malware to cause the XL to cast false votes and print on the vote summary card after the voter sees it, thereby altering the paper record to match a false result. 2/19 Tr. 14:3-5 (“[I]f that software is compromised, it would be possible for the machine to print on the ballot again after the voter has seen it.”); *see also id.* 27-30, 78-79 (Halderman).

109. A sophisticated attacker could also introduce malware to cause the XL to tabulate votes stored in the system’s temporary memory that the voter intended not to cast.

110. Election returns on the XL have only ever been audited in a pilot audit of the 2019 General Election results in Philadelphia, and perhaps one other audit in Union County, New Jersey. 2/19 Tr. 266:21-267:8 (Baumert).

111. A single audit in an off-year municipal election showing no disparity in the results is plainly not a sufficient basis in evidence to conclude that the XL is not vulnerable to malware. *Id.* at 169:6-18 (Halderman).

112. Defendants’ witness, product manager Dean Baumert, admitted that the XL is manufactured and assembled largely not in a secure facility at ES&S headquarters in Omaha, but in Taiwan and China. *Id.* at 265:6-22 (Baumert).

113. XL machines are not sealed when they are shipped from the manufacturer to the customer. 2/21 Tr. 43:5-15 (Lynch).

114. The Philadelphia County Board of Elections does put its own seals on the machines after testing them, but those are cheap pieces of plastic readily available on the commercial market. *Id.* at 50:1-5.

115. On Election Day, the seals are inspected and broken by judges of elections, who are partisan elected officials. *Id.* at 51:25-52:17 (Lynch).

116. The keys to Philadelphia's machines are universal, meaning that a single stolen or improperly copied key would enable access to every machine. *Id.* at 47:14-19 (Lynch) ("Q. Same key for every machine? A. Yes.").

117. The machines are stored in a warehouse to which "upwards" of twenty people have regular access. *Id.* at 48:13-15.

LACHES

No Discussion of the XL, Barcodes, or Vote Summary Cards Before the Agreement

118. At no point before or after the Agreement did Defendants mention the XL system. 2/18 Tr. 149:23, 183:19 (Boockvar); *id.* at 250:6-25 (Gates).

119. At no point before the parties' meet-and-confer in the summer of 2019 did Defendants mention barcodes. *Id.* at 150 (Boockvar); *id.* at 181:14-20 (Gates).

120. At no point before the parties' meet-and-confer in the summer of 2019 did Defendants mention vote summary cards. *Id.* at 150 (Boockvar); *id.* at 181:14-20 (Gates).

121. On September 28, 2018, Unger forwarded a "voting system and electronic poll book report," that was inaccurate and misleading in multiple respects. JX 12. First, the report in column two lists "model[s]" that are not models but "suites" of systems containing "a number of different configurations that can be used for voting." 2/18 Tr. 80:20-81:1 (Boockvar). Looking at JX 12, it is impossible to know which actual voting systems are in which suite. *Id.*

122. Even if one could know that the EVS 6021, for example, contained ExpressVote systems, "different ExpressVotes work in different ways," 2/19 Tr. 36:7-9 (Halderman).

123. And even if one could know which specific ExpressVote systems were included in the suite, “they can be configured to work in different ways even within the same machine.” *Id.* at 36:9-11.

124. Second, the poll book report contradicted Ms. Unger’s email: the email stated that poll book included voting systems “DOS expects *will* be presented for examination in Pennsylvania,” presumably at some undetermined point after September 28, JX 14 (emphasis added), but the poll book report stated that testing for the EVS 6000 and 6021 was “scheduled during the week of Sep24, 2018 [*sic*].” JX 12 at 1.

125. Finally, the poll book contained systems within the suites that Defendants admit should not have been included. For example, on page 2, it included, within the suite of Hart Intercivic Verity Voting voting systems, the Verity Touch, a paperless DRE system that, all parties agree, Pennsylvania was not considering certifying and would not have complied with any contemplated settlement agreement. 2/19 Tr. 312:22-313:2 (Kotula).

126. In response to the forwarding of the inaccurate poll book, Plaintiffs’ counsel Ilann Maazel wrote Unger on October 9, 2018, noting that the poll book “include[s] the Verity Touch, a paperless DRE system.” JX 20.

127. Maazel asked for an accurate, specific list of voting systems actually under consideration by the Department of State: “I think we (and you) need a more granular list of which particular machines/election systems are being proposed for certification.”⁶ *Id.*

⁶ Plaintiffs also included some “quick initial thoughts” from Dr. Halderman on the suites of systems listed in the poll book. 2/19 Tr. 32:10-20 (Halderman). This was not “an all-encompassing list of our potential problems with all of the equipment.” *Id.* Halderman did not participate in any settlement discussions and “was not involved in the settlement negotiation.” *Id.* 84:16-25. For all of Defendants’ focus on Dr. Halderman, when it comes to settlement discussions and the meaning of terms in the Agreement, Dr. Halderman’s views are irrelevant.

128. Defendants never provided Plaintiffs a more granular list, or an accurate list, of voting systems under consideration, either in writing, Stip ¶ 28; 2/18 Tr. 245:21 (Gates), or at all, 2/18 Tr. 246:3 (Gates).

129. Instead, according to Gates, the parties had at best a “very quick” discussion about DRE machines on October 9, 2018, before turning to the question of audits. 2/18 Tr. 247:25, 248:7-8 (Gates).

Defendants Violate the Monitoring Provision of the Agreement and Fail to Notify Plaintiffs About the XL’s Certification

130. The Agreement required that “a designee of Plaintiffs will be invited to observe the certification process.” JX 30 ¶ 4.

131. This is the one and *only* method of monitoring provided in the Agreement concerning Defendants’ certification of voting systems. JX 30; 2/18 Tr. 251-52 (Gates).

132. Defendants certified the EVS 6021 suite of systems on November 30, 2018, *after* the settlement agreement. Stip ¶ 43; JX 34.

133. The EVS 6021 suite includes the XL. 2/18 Tr. 185:24 (Gates).

134. As Kathleen Kotula admitted, Defendants failed to invite Plaintiffs’ designee to observe the certification process of the XL, as required under the Agreement. 2/19 Tr. 309:24-310:8 (Kotula) (Q: Ms. Kotula, did you or anyone for Defendants ever invite Dr. Halderman to observe the certification process of the EVS 6021 system? A: No.”); JX 30 ¶ 4.

135. Before Defendants decided to certify the EVS 6021 suite (including the XL), Defendants neither invited Plaintiffs’ designee (Dr. Halderman) to attend any certification testing, nor made any video of the testing available to Dr. Halderman. *Supra* ¶¶ 132-134.

136. Defendants did not even inform Dr. Halderman that there would be or had been testing of the XL. *See* 2/18 Tr. 264:21-265:12 (Kotula) (Defendants did not mention anything about ES&S to Dr. Halderman before certification of EVS 6021).

Defendants Also Fail to Inform Plaintiffs About the XL's Certification *After* Certification

137. “Defendants did not communicate the certification of the EVS 6.0.2.1 system to Plaintiffs.” Stip ¶ 44.

138. Defendants failed to do so, *ever*. 2/18 Tr. 185:15-21 (Gates).

139. Defendants did not inform Plaintiffs, their counsel, or their designee Dr. Halderman. *Id.* at 185:25-186:8 (Gates); *id.* at 264-65 (Kotula) (never mentioned ES&S to Halderman); 2/19 Tr. 44:8-9 (Halderman) (same).

Defendants Then Stonewall Plaintiffs' Designee for Over Six Months and Fail to Provide Any XL Testing Videos

140. On October 24, 2018, Dr. Halderman, as Plaintiffs' designee, reached out to Kathleen Kotula, executive deputy chief counsel for the Department of State. PX 1001 at 1.

141. From the beginning, and even before the Settlement Agreement was signed, Kotula offered to provide Dr. Halderman testing videos for any testing he could not attend in person. *Id.* at 6 (“Please let me know if you plan to attend in person. Otherwise, we can discuss arrangements regarding the video recording of the examination.”); 2/19 Tr. 307 (Kotula).

142. Dr. Halderman promptly took Kotula up on the offer for the next scheduled examination (Clearballot). PX 1001 at 7.

143. Dr. Halderman asked Kotula for ES&S testing videos ten times between January and June of 2019. 2/18 Tr. 274:23-275:2 (Kotula).

144. The videos were of official proceedings open to the public.

145. Each time, Kotula either failed to respond, promised to respond but did not, or invented excuses for failing to respond. 2/18 Tr. 263-74 (Kotula); PX 1001 *passim*.

146. On January 29, 2019, Dr. Halderman asked for testing videos of previous certification testing, including the XL. Stip ¶ 49; PX 1001 at 13.

147. Kotula did not respond to the request. PX 1001 at 13; *see* 2/18 Tr. 263:19-23 (Kotula) (PX 1001 contains all Kotula-Halderman emails).

148. On February 21, 2019, Dr. Halderman requested the XL videos again. Stip ¶ 52; PX 1001 at 17.

149. Kotula responded that the Department needed to “work with the vendors first to review the videos for proprietary information.” PX 1001 at 17.

150. On March 7, 2019, Dr. Halderman again requested the videos and wrote: “Since many counties are looking to purchase machines, and their decisions might be better informed by public feedback, time is of the essence.” Stip ¶ 55; PX 1001 at 18.

151. An attorney in the Department of State wrote back that the videos were under review by vendors. PX 1001 at 18-19.

152. On March 28, 2019, Dr. Halderman again requested the XL videos; no one responded. Stip ¶ 57; PX 1001 at 19.

153. On April 17, 2019, Dr. Halderman again requested the XL videos; no one responded. Stip ¶ 58; PX 1001 at 20.

154. On May 9, 2019, Ilann Maazel sent an email requesting the XL videos. Stip ¶ 59; JX 40 at 4.

155. On May 14, 2019, Maazel sent another email asking for an update. Stip ¶ 61; JX 40 at 2.

156. On May 16, 2019, Kotula provided testing videos for a different vendor and said that the Department would provide ES&S videos next. JX 40 at 2.

157. On May 28, 2019, Dr. Halderman again asked for the XL videos; no one responded. Stip ¶ 67; PX 1001 at 25.

158. On June 4, 2019, Dr. Halderman again asked for the XL videos. Stip ¶ 68; PX 1001 at 25.

159. The Department of State provided testing videos of the XL on June 5, 2019. Stip ¶ 69; PX 1001 at 25-26.

160. The videos provided included testing videos only from the first round of testing June 2018, not from the second round of testing in September 2018 that preceded the certification of the EVS 6021 and tested the system certified for use. 2/18 Tr. 275-76 (Kotula).

161. Kotula never informed Dr. Halderman or any other representative of Plaintiffs of Defendants' purported position that Dr. Halderman was not entitled to see testing videos under the Settlement Agreement. 2/19 Tr. 305:7-14 (Kotula).

162. Dr. Halderman reasonably believed he needed to see the videos of the testing to responsibly understand and provide detailed feedback about the specific voting systems certified for use in Pennsylvania. 2/19 Tr. 32-33 (Halderman).

163. There is no substitute for seeing the actual testing of a voting system, whether in person or by video. "[A]ctually witnessing or participating in the testing provides far more information about (a) what systems and configurations of those systems are being considered for use; and (b) just how the operate. There is no substitute for that just by having a whole suite of systems listed." 2/19 Tr. 33:1-7 (Halderman); *see also id.* at 45-46 (videos are a

“really irreplaceable source to me of information about how Pennsylvania intended to use the machines and the way they worked in practice”).

164. Dr. Halderman got married and went on a honeymoon in June 2019 and reviewed the ES&S videos “in the beginning of July” 2019. 2/19 Tr. 44:13-21.

165. Dr. Halderman did not learn about key features of the XL until he saw the videos, or later.

166. For example, Dr. Halderman did not know or learn about the printhead issue in October 2018, and did not learn about that issue until he received the testing videos. *Id.* at 36:14-19.

167. Dr. Halderman learned that the XL makes an electronic record of the vote before the voter sees the paper when he read Defendants’ September 2019 recertification report. 2/19 Tr. 13:3-7.

Within a Few Weeks of Receiving the Videos, and Notwithstanding a Pending Petition to Reexamine the XL, Plaintiffs Begin the Meet-and-Confer Process Required by the Agreement

168. On July 16, 2019, Citizens for Better Elections petitioned the Secretary to decertify the XL. Stip ¶ 71; 2/18 Tr. 187 (Gates).

169. Had the petition succeeded, Defendants would have decertified the XL, and neither Philadelphia nor any other county could have used the XL in November 2019. 2/18 Tr. 188 (Gates).

170. On July 29, 2019, Plaintiffs sent Defendants a meet-and-confer letter. JX 43.

171. That written notice was required under the Agreement. JX 30 ¶ 14; 2/18 Tr. 190 (Gates). The purpose of the meet-and-confer process was to have a good faith discussion

to resolve the legal issues and give each side the chance to persuade the other of its position, to avoid burdening the Court with a dispute. 2/18 Tr. 199:2-12 (Gates).

172. Defendants had 30 days to respond under the Agreement. *Id.*; JX 30 ¶ 15.

173. Rather than address Plaintiffs' concern in a timely way, Defendants' response was to delay. They asked for an extension until September 12 to respond. JX 40; 2/18 Tr. 191 (Gates). Plaintiffs granted Defendants the courtesy of an extension. *Id.* 193:16-20.

174. On September 3, 2019, Defendants recertified the XL. JX 45.

175. However, Defendants again did not inform Plaintiffs. To the contrary, on September 10, 2019, a reporter informed Plaintiffs' counsel. *See* JX 46 ("I was informed by a reporter that the department re-examined the ES&S system and re-approved it. Can you give us more information on that?").

176. After Plaintiffs wrote defense counsel, counsel forwarded a link to the XL reexamination report. JX 46.

177. On September 12, 2019, Defendants provided their first formal response to Plaintiffs' July 29, 2019 meet-and-confer letter. JX 47; 2/18 Tr. 197 (Gates).

178. On October 1, 2019, Plaintiffs sent Defendants a second meet-and-confer letter. JX 48.

179. Defendants took a full 29 days to respond. JX 49.

180. The parties had further written meet-and-confer correspondence on November 8 (Gates), November 10 (Maazel), and November 13 (Gates). JX50.

181. The parties also had a number of oral meet-and-confer conversations. *See, e.g.*, 2/18 Tr. 199:13-200:9 (Gates).

182. During the oral and written meet-and-confer discussions, the parties discussed various aspects of Defendants' compliance with the Agreement, and Defendants provided factual information concerning the relevant disputes. 2/18 Tr. 194, 199-200 (Gates); JX 47, 49, 50.

183. At *no* time during the entire meet-and-confer process between July and November 2019, in any oral or written communication, did any of the defense counsel suggest that Plaintiffs had delayed, or that time was of the essence, or that the timing of the meet-and-confer could, did, or would cause Defendants, Philadelphia, or anyone any prejudice. 2/18 Tr. 192-93, 194:22-195:2, 197:15-19, 198:14-17 (Gates); JX 40, 46, 47, 49, 50.

184. The first time Defendants came up with that claim was after Plaintiffs filed the motion to enforce. 2/18 Tr. 209:12-20.

185. On November 26, 2019, within thirteen days of the last written meet-and-confer, Plaintiffs filed this motion to enforce, which included three declarations, 13 exhibits, and a 13-page brief. Stip ¶ 83; Dkt. #112.

186. Plaintiffs did not unreasonably delay or fail to exercise due diligence in filing the motion. *See supra* ¶¶ 118-185.

FEASIBILITY / PREJUDICE

ES&S Bears the Financial Consequences of Decertification

187. If the ExpressVote XL is decertified by the Secretary of the Commonwealth, ES&S must provide certified replacement voting systems to Philadelphia at no cost to Philadelphia. PX 1004 art. XII ("Equipment and Provider Software modifications or replacements necessary due to decertification by . . . the Commonwealth of Pennsylvania . . . must be provided to City at no cost or it must be replaced with a certified system at no cost.");

2/19 Tr. 288:12-19 (Baumert no basis to dispute); *id.* at 331:21-332:12 (Nesmith-Joyner no basis to dispute).

188. The Executive Director of the Philadelphia County Board of Elections has no knowledge of the contents of the contract between Philadelphia and ES&S for the purchase of the ExpressVote XL. 2/21 Tr. 36:25-37:15 (Lynch).

189. The money spent by Philadelphia on ancillary expenses associated with the transition to the ExpressVote XL, such as warehouses and consultants, is less than the \$2.9 million penalty owed by ES&S to the City of Philadelphia. 2/19 Tr. 343:12-344:3 (Nesmith-Joyner).

190. ES&S did not seek to intervene in these proceedings, is not a party to these proceedings, and does not claim that it has suffered any prejudice as a result of any alleged delay by Plaintiffs.

It Is Feasible for Philadelphia to Replace Its Voting Systems in Time for the 2020 General Election

191. Either the federal Election Assistance Commission or the Secretary of the Commonwealth could unexpectedly need to decertify a voting system at any time, for a host of reasons. 2/18 Tr. 37:8-18 (Boockvar).

192. Decertification can happen quickly. *Id.* at 37:19-21; JX 39 at 9 (Boockvar testimony to Pennsylvania Senate).

193. In the event of an unexpected decertification, it is important for counties to be resilient and flexible in their response to ensure that voters can exercise their right to vote. *Id.* at 37:22-38:1.

194. If immediate decertification were required, it would be unacceptable for a county to tell the Department of State that it needed 18 to 24 months to get a new voting system in place. *Id.* at 38:2-7.

195. After the Secretary of the Commonwealth decertified a voting system in December 2007, Northampton, Lackawanna, and Wayne Counties obtained new systems, trained their poll workers, and held a presidential primary in April 2008. *Id.* at 39:5-11.

196. The same system was decertified in Virginia “two months before an election,” and new systems were obtained and used effectively in time for the election. JX 39 at 9; *Id.* at 41:8-23.

197. Despite the importance of resiliency and flexibility, the Philadelphia County Board of Elections does not make contingency plans for possible decertification of voting systems. 2/21 Tr. 18:21-24 (Lynch).

198. While a petition to reexamine the ExpressVote XL was pending from July 16, 2019 to September 3, 2019, the Board of Elections did not make any contingency plans for the possible decertification of the system. *Id.* at 29:8-30:19; Stip ¶¶ 71, 75 (dates).

199. While Plaintiffs’ motion has been pending, the Board of Elections did not make any contingency plans for the possible decertification of the system. *Id.* at 30:14-19 (the Court).

200. While Plaintiffs’ motion has been pending, the Board of Elections has not made any efforts to update itself about other voting systems that have been certified for use in the Commonwealth since it selected the ExpressVote XL. 2/21 Tr. 30:25-31:18 (Lynch).

201. The professional Executive Director of the Board of Elections does not keep himself informed of other voting systems that have been certified for use in the

Commonwealth because he does not think his opinion would matter to the elected officials who comprise the Board if a new system had to be selected. *Id.* at 31:14-32:8.

202. The Philadelphia County Board of Elections has not taken reasonable measures to mitigate, limit, or avoid any alleged prejudice that might result from any alleged delay by Plaintiffs in bringing this motion. *See supra* ¶¶ 124-28.

203. Philadelphia selected the ExpressVote XL on February 20, 2019. Stip ¶ 50.

204. Philadelphia entered into a contract to purchase the ExpressVote XL on May 13, 2019. Stip ¶ 60.

205. Philadelphia voters used the ExpressVote XL in the 2019 General Election on November 5, 2019, 258 days after the system was selected and 176 days after the contract was signed. Stip ¶¶ 86-88.

206. The 2019 General Election went at least as smoothly as previous elections in Philadelphia. 2/21 Tr. 33:14-16.

207. Choosing a voting system in late February gave the City enough time to smoothly run an election with that voting system in early November. *Supra* ¶¶ 203-206.

208. Montgomery County selected a new voting system on December 13, 2018 and used it in the 2019 Primary Election on May 21, 2019, 159 days later. Stip ¶¶ 46, 63-64.

209. Northampton County selected a new voting system on May 16, 2019, and used it in the 2019 General Election on November 5, 2019, 173 days later. Stip ¶¶ 63, 87, 88.

210. It is possible for Philadelphia to adopt a new voting system in time for the 2020 General Election. *See* 2/18 Tr. 41:24-43:18, 124:3-10, 159:7-13 (Boockvar).

211. To the extent Secretary Boockvar suggested in her testimony in court that it would not be possible for Philadelphia to adopt a new voting system in time for the 2020 General Election, such testimony is not credible because it is inconsistent with her sworn declaration, and she had all of the same information at the time she submitted her declaration as she did when she testified in court. *See id.* at 41:24-43:18, 159:7-13.

212. If the Secretary decertified the ExpressVote XL and ES&S provided Philadelphia with certified replacement voting systems at no cost, the City would not need to go through a procurement process to procure new machines. 2/19 Tr. 335:5-18 (Nesmith-Joyner).

213. In the event the City elected to go through a procurement process, the City of Philadelphia has emergency procurement procedures. *Id.* at 336:17-19.

214. Under the Home Rule Charter, “[i]n order to enable an agency to meet emergencies or make a specialized type of purchase, the Procurement Department . . . may permit a direct purchase by an agency.” Home Rule Charter sec. 6-500 annotation 6.

215. Under the Philadelphia Code, the City can award a noncompetitive contract without a bidding process if the City Solicitor certifies that the contract must be awarded immediately to avoid material damage to the City’s legal interests. 2/19 Tr. 339:12-23 (Nesmith-Joyner); Phila. Code § 17-1406.

216. The procurement process that the City followed to purchase the ExpressVote XL was not an emergency process. 2/21 Tr. 17:13-23 (Nesmith-Joyner).

217. In the event the Court issued an order directing the Secretary to decertify the ExpressVote XL, and in the event the City were not provided with replacement machines at no cost by ES&S, the City could use emergency procurement powers to procure new machines much more quickly. *See supra* ¶¶ 212-216.

218. The procurement process for the ExpressVote XL began with the issuance of a request for information (“RFI”) on June 4, 2018. 2/21 Tr. 17:24-18:3 (Nesmith-Joyner).

219. The City selected the ExpressVote XL on February 20, 2019, less than nine months later. Stip ¶ 50.

220. If the City were to run another non-emergency procurement process for new voting systems, it could update its old RFI and request for proposals instead of preparing them from scratch. 2/21 Tr. 18:22-19:19 (Nesmith-Joyner).

221. A second non-emergency procurement process would therefore be expected to take significantly less than nine months from the initial issuance of the RFI to the selection of the new system. *See supra* ¶¶ 218-220.

Dated: March 16, 2020

EMERY CELLI BRINCKERHOFF &
ABADY LLP

/s/

Ilann M. Maazel, Esq.*
Douglas E. Lieb, Esq.*
600 Fifth Avenue, 10th Floor
New York, NY 10020
Phone: 212-763-5000
Fax: 212-763-5001
Email: imaazel@ecbalaw.com

** Admitted pro hac vice*

MONTGOMERY McCracken
WALKER & RHOADS LLP

John G. Papianou, Esq.
Brett Waldron, Esq.
1735 Market Street
Philadelphia, PA 19103
Phone: 215-772-7389

Attorneys for Plaintiffs

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF PENNSYLVANIA

JILL STEIN, RANDALL REITZ, ROBIN HOWE,
SHANNON KNIGHT, and EMILY COOK,

Plaintiffs,

-against-

KATHY BOOCKVAR, in her official capacity as
Acting Secretary of the Commonwealth; and
JONATHAN MARKS, in his official capacity as
Commissioner of the Bureau of Commissions,
Elections, and Legislation,

Defendants.

No. 16-CV-6287 (PD)

PLAINTIFFS' PROPOSED CONCLUSIONS OF LAW

Emery Celli Brinckerhoff & Abady LLP
600 Fifth Avenue, 10th Floor
New York, New York 10020
(212) 763-5000

Montgomery McCracken Walker & Rhoads LLP
1735 Market Street
Philadelphia, PA 19103
(215) 772-1500

TABLE OF CONTENTS

PAGE NO.

TABLE OF AUTHORITIESiii-iv

PRELIMINARY STATEMENT1

LEGAL STANDARD.....1

ARGUMENT.....3

 I. THE EXPRESSVOTE XL DOES NOT COMPLY WITH THE SETTLEMENT
 AGREEMENT3

 A. The ExpressVote XL Does Not Use a Paper Ballot4

 1. Defendants Distinguish Between “Paper Ballots” and Other
 Paper Records and Do Not Call the ExpressVote XL Summary
 Card a “Paper Ballot”4

 2. Plaintiffs’ Expression of Their Intent Confirms Their Agreement
 with Defendants6

 3. The ExpressVote XL Does Not Use a “Paper Ballot”6

 4. Contrary to Defendants’ Assertions, the “Paper Ballot” Issue
 Has Nothing to Do with Whether Ballot-Marking Devices Are
 Permitted8

 B. The XL Does Not Produce a Voter-Verifiable Record of the Vote.....9

 C. The ExpressVote XL Is Not Capable of Supporting Robust Pre-
 Certification Auditing10

 a. The Agreement’s Auditing Requirement Must Be
 Given Independent Force and Meaning.....10

 b. Auditing Only Works If the Paper Record Matches
 Voter Intent, Which the XL Cannot Guarantee12

 c. The Potential Vulnerabilities in the Design of the
 ExpressVote XL Are Real13

 II. DEFENDANTS HAVE NOT MET THEIR BURDEN OF PROOF WITH
 RESPECT TO THE AFFIRMATIVE DEFENSE OF LACHES14

 A. Plaintiffs Did Not Inexcusably or Inordinately Delay in Bringing This
 Motion.....15

B. Neither Defendants Nor Intervenors Have Been Prejudiced By Any
Delay19

CONCLUSION.....22

TABLE OF AUTHORITIES**PAGE NO.****Cases**

<i>Beech v. Ragnar Benson, Inc.</i> , 587 A.2d 335 (Pa. Super. Ct. 1991).....	18
<i>Benchmark Grp., Inc. v. Penn Tank Lines, Inc.</i> , 612 F. Supp. 2d 562 (E.D. Pa. 2009).....	11
<i>Berne Corp. v. Gov't of Virgin Islands</i> , 105 F. App'x 324 (3d Cir. 2004)	3
<i>Cal. Sun Tanning USA, Inc. v. Elec. Beach, Inc.</i> , 369 F. App'x 340 (3d Cir. 2010)	2
<i>Curling v. Raffensperger</i> , 397 F. Supp. 3d 1334 (N.D. Ga. 2019).....	14, 22
<i>DeHainaut v. Cal. Univ. of Pa.</i> , 490 F. App'x 420 (3d Cir. 2012)	2
<i>Howell v. Bureau of Prof'l & Occupational Affairs</i> , 38 A.3d 1001 (Pa. Commw. Ct. 2011)	14
<i>Kokkonen v. Guardian Life Ins. Co. of Am.</i> , 511 U.S. 375 (1994).....	2
<i>Kripp v. Kripp</i> , 849 A.2d 1159 (Pa. 2004).....	2
<i>Laudig v. Laudig</i> , 624 A.2d 651 (Pa. Super. Ct. 1993).....	18
<i>Leedom v. Thomas</i> , 373 A.2d 1329 (Pa. 1977).....	21
<i>Mazzella v. Koken</i> , 739 A.2d 531 (Pa. 1999).....	2
<i>Merlino v. Plains Twp.</i> , 405 A.2d 1032 (Pa. Commw. Ct. 1979)	19
<i>Nilon Bros. Enters. v. Lucente</i> , 461 A.2d 1312 (Pa. Super. Ct. 1983).....	18

Prusky v. Prudential Ins. Co. of Am.,
No. 00-CV-2783, 2001 WL (E.D. Pa. Oct. 30, 2001) 2

Richland Twp. v. Prodex, Inc.,
634 A.2d 756 (Pa. Commw. Ct. 1993) 14, 21

Saber v. FinanceAmerica Credit Corp.,
843 F.2d 697 (3d Cir. 1998)..... 3

Spatz v. Nascone,
424 A.2d 929 (Pa. Super. Ct. 1981)..... 2

Wells Fargo Bank, N.A. v. Chun Chin Yang,
317 F. Supp. 3d 879 (E.D. Pa. 2018) 2

Statutes

25 P.S. § 2621 5

25 P.S. § 3031 5

PRELIMINARY STATEMENT

In Defendants’ view, words don’t matter. The words of the Secretary of the Commonwealth don’t matter. The words of official Department of State certification documents don’t matter. The words of the Election Code don’t matter. Defendants’ repeated reference to the ExpressVote XL’s “summary record” in their certification, their recertification, and their meet-and-confer letters don’t matter.

What’s more, in Defendants’ view, “and” is the same thing as “or.” “Voter verifiable paper record” is the same thing as “paper ballot.” “Or” doesn’t really mean “or,” but instead means “is the same as.”

Under the law, words do matter. This is a motion to enforce the parties’ Settlement Agreement. The Settlement Agreement is a contract. The words in the Settlement Agreement create obligations—obligations Defendants must meet and cannot run away from when it is politically expedient. The parties’ own words are objective expressions of what they understood the terms of the Settlement Agreement to mean. They are the crucial evidence in resolving this dispute.

The parties’ words compel the conclusion that the XL does not use a “paper ballot.” They also show that the XL does not create a “voter-verifiable” record of each vote and is not capable of supporting robust pre-certification audits. Because the XL does not comply with the Settlement Agreement, and because neither the Commonwealth nor Philadelphia has proven that it suffered prejudice as a result of inordinate delay by Plaintiffs, the Court should grant the motion.

LEGAL STANDARD

Plaintiffs seek an order requiring the Secretary of the Commonwealth to specifically perform her obligations under the Settlement Agreement by decertifying the

ExpressVote XL for use in Pennsylvania in time for the 2020 General Election, or otherwise as soon as feasible.

The Settlement Agreement is a contract. In that contract, the parties agreed to federal enforcement of their rights and obligations. JX 30 ¶ 13. This Court retained jurisdiction to enforce it. Dkt. #110; *Kokkonen v. Guardian Life Ins. Co. of Am.*, 511 U.S. 375, 381 (1994).

The Settlement Agreement contains a Pennsylvania choice-of-law provision inserted by Defendants. FF ¶¶ 37-38.¹ Under Pennsylvania law, the enforcement of a settlement agreement is “governed by principles of contract law.” *DeHainaut v. Cal. Univ. of Pa.*, 490 F. App’x 420, 422 (3d Cir. 2012) (quoting *Mazzella v. Koken*, 739 A.2d 531, 536 (Pa. 1999)). “The primary goal of contract interpretation is to determine the intent of the parties.” *Wells Fargo Bank, N.A. v. Chun Chin Yang*, 317 F. Supp. 3d 879, 886 (E.D. Pa. 2018). If the Court concludes that the terms of the Settlement Agreement are ambiguous, the Court may admit extrinsic evidence of the parties’ intent. *See Kripp v. Kripp*, 849 A.2d 1159, 1165 (Pa. 2004). The parties’ “words and conduct before, during, and after the transaction” are the relevant evidence in determining their intent, not their undisclosed subjective thoughts. *Spatz v. Nascone*, 424 A.2d 929, 942 (Pa. Super. Ct. 1981); *accord Prusky v. Prudential Ins. Co. of Am.*, No. 00-CV-2783, 2001 WL 34355665, at *26 (E.D. Pa. Oct. 30, 2001).

Given the non-monetary nature of Defendants’ obligations under the Agreement, the appropriate remedy for any breach is specific performance. *See, e.g., Cal. Sun Tanning USA, Inc. v. Elec. Beach, Inc.*, 369 F. App’x 340, 348 (3d Cir. 2010). An order directing a contracting party to specifically perform its obligations under a settlement agreement is not a permanent injunction, and the legal standard for issuing a permanent injunction does not apply. *See Saber*

¹ Citations to “FF ¶¶ ___” are to the numbered paragraphs in Plaintiffs’ Proposed Findings of Fact, including the sources cited therein.

v. FinanceAmerica Credit Corp., 843 F.2d 697, 702 (3d Cir. 1998) (“A settlement agreement is a contract, and an order enforcing a contract is ordinarily described as an order for specific performance. . . . The fact that a specific date for compliance is attached to an order for specific performance of the settlement agreement does not by itself transform the enforcement order into a mandatory injunction.”).

No federalism concerns are present here, as Defendants voluntarily consented to federal remedies for any breach of their obligations under the Agreement. *See Berne Corp. v. Gov’t of Virgin Islands*, 105 F. App’x 324, 330-31 (3d Cir. 2004) (rejecting separation-of-powers concerns raised by territorial government that consented to federal court enforcement of settlement agreement and was found in breach). Indeed, federal enforcement is a material term of the parties’ bargain. *See* 2/18 Tr. 166:8-21, 234:10-235:3 (Gates) (discussing drafting history and negotiation concerning enforcement provisions of Agreement).

ARGUMENT

I. THE EXPRESSVOTE XL DOES NOT COMPLY WITH THE SETTLEMENT AGREEMENT

The Settlement Agreement imposes three separate requirements for the certification of voting systems in Pennsylvania. The Secretary will only certify new voting systems for use in Pennsylvania if: (a) “The ballot on which each vote is recorded is paper”; (b) “They produce a voter-verifiable record of each vote; **and**” (c) “They are capable of supporting a robust pre-certification auditing process.” JX 30 ¶ 2 (emphasis added); *see* FF ¶ 1. The Agreement also requires the Secretary to ensure “that every voter in Pennsylvania in 2020 uses a voter-verifiable paper ballot.” JX 30 ¶ 3; FF ¶ 2. Each system certified by the Secretary must meet all three separate requirements. That is what “and” means. FF ¶ 2. The ExpressVote XL does not meet any of the three requirements.

A. The ExpressVote XL Does Not Use a Paper Ballot

The evidence establishes that the parties’ intent in using the term “paper ballot” was to require a *ballot*—that is, a piece of paper containing contest options—not merely any paper receipt or record. The ExpressVote XL does not comply with the Settlement Agreement’s “paper ballot” requirement.

1. Defendants Distinguish Between “Paper Ballots” and Other Paper Records and Do Not Call the ExpressVote XL Summary Card a “Paper Ballot”

Defendants’ own oft-repeated words are clear. “Paper records” and “paper ballots” are not the same thing. By their words, Defendants showed their understanding that “paper ballots” contain contest options and their intent that the Settlement Agreement so reflect.

In February 2018, Acting Secretary of the Commonwealth Jonathan Marks issued an official directive, exercising his statutory authority under the Pennsylvania Election Code. FF ¶ 45. Acting Secretary Marks directed that all voting systems purchased by Pennsylvania counties “be of the type that employs a voter-verifiable paper ballot *or* voter-verifiable paper record.” *Id.*

In June 2018, Acting Secretary of the Commonwealth Robert Torres issued another official directive concerning electronic voting system examinations, exercising his statutory authority under the Election Code. It similarly required counties to use a “voter-verifiable paper ballot *or* a voter-verifiable paper record.” *Id.* ¶ 46.

Defendants did not say “paper record—that is, a paper ballot.” They did not say “paper record or paper ballot, which are the same.” They did not say “paper ballot (i.e., paper record).” Instead, they said “paper records *or* paper ballots.” Defendants’ statements confirm the obvious: “Paper record” and “paper ballot” are not the same. The latter is a subset of the former. Not every piece of paper that records a vote is a “paper ballot.”

Secretary Boockvar cannot identify, and Defendants have not produced, a single document predating the Settlement Agreement in which the Department of State directed counties to purchase voting systems with “paper ballots” only. *See* All Exhibits *passim*; 2/18 Tr. 139:14-18 (Boockvar). If “paper ballot” and “paper record” were truly interchangeable, as Defendants now claim, surely there would have been at least one occasion on which Defendants directed counties to adopt “paper ballots” alone. But they did not. The much-ballyhooed “path” or “initiative” that Defendants had begun before the Settlement Agreement, described at length by defense witnesses at the hearing, involved directing counties to use “paper records *or* paper ballots”—not “paper ballots.” *See* FF ¶¶ 51-52. Defendants were “on a path” and “moving in a direction” *toward* paper ballots. *Id.* ¶ 53. They had not reached the destination embodied in the Settlement Agreement: a written commitment to paper ballots. *Id.*

The Secretary’s use of “paper record *or* paper ballot” in this way is consistent with the Secretary’s official function in administering the Pennsylvania Election Code. *See* 25 P.S. § 2621 (granting authority to the Secretary). The Election Code defines a “paper ballot” as “a printed paper ballot which conforms in layout and format to the voting device in use.” *Id.* § 3031.1. In other words, a paper ballot shows the same layout that the voter sees when using the machine to make his or her selections. *See id.* It has contest options. *See id.* A “ballot card,” in contrast, is just any old paper record: “a card which is compatible with automatic tabulating equipment and on which votes may be registered.” *Id.* Had the Commonwealth’s chief election official directed counties to purchase voting systems with “paper ballots” only, counties logically would have interpreted that directive to mean that they had to use “paper ballots” within the meaning of the Election Code. But that is not what Defendants said because they did not mean “paper ballots.” They meant “paper records.”

The Election Code’s definition of “paper ballot” is consistent with the Secretary’s use of “ballot” in other related contexts and with its ordinary meaning. “Absentee ballots,” “provisional ballots,” and “mail-in ballots” all contain the range of options from which the voter can make his or her choices. *See* FF ¶¶ 31-33. That is what makes them *ballots*. The National Institute of Standards and Technologies (NIST), a federal agency that provides technical assistance to the Election Assistance Commission, the federal certification authority, defines “paper ballot” similarly to require contest options. *Id.* ¶¶ 41-42.

Defendants’ official directives, the statutory provisions that they are responsible for implementing, and their use of “ballot” in other contexts all manifested their intent that the term “paper ballot” meant a piece of paper with contest options.

2. Plaintiffs’ Expression of Their Intent Confirms Their Agreement with Defendants

Plaintiffs’ contemporaneous expression of their intent confirms that Plaintiffs shared this view. In their mediation statement submitted to Magistrate Judge Rice, Plaintiffs wrote: “Only a paper ballot—whether marked by the voter’s hand, or with a machine called a ‘ballot marking device’—ensures that the result counted by the machine can be verified against a physical record of the voter’s true choice.” *Id.* ¶ 34. One point of the Settlement Agreement, from Plaintiffs’ perspective, was to move from “paper ballot or paper record” to “paper ballot.”

3. The ExpressVote XL Does Not Use a “Paper Ballot”

It is undisputed that the XL paper record does not show contest options. JX 57. Thus, the XL does not use a “paper ballot” within the parties’ intended meaning of that term.

Moreover, the record is replete with party *admissions* by Defendants that the XL does not use a “paper ballot.” When the Department of State believes that a voting system uses a

“paper ballot,” it says so. That is not how Secretary Boockvar or Defendants’ counsel describe the summary card used by the XL.

The Secretary’s September 3, 2019 recertification of the XL refers to the XL’s paper record as a “vote summary record” approximately 20 times. FF ¶ 12. It never once refers to the XL document as a “ballot,” much less a “paper ballot.” *Id.* ¶ 13. Similarly, in the Department’s original certification of the XL, Defendants again repeatedly referred to the XL document as a “vote summary card.” *Id.* ¶ 14. In contrast, when the Secretary certifies voting systems that use paper records with contest options, the certification reports call those pieces of paper “paper ballots.” *See id.* ¶¶ 16-18 (Clearballot Clearvote); *id.* ¶¶ 19-21 (Hart Verity TouchWriter).

Boockvar’s excuse that these official certification records merely parrot language used by manufacturers to describe their products falls flat for two reasons, even assuming it is factually accurate. *See* 2/18 Tr. 17:24-18:2 (Boockvar). First, the Department is not required to borrow manufacturers’ language. *Id.* at 30:2-5. That it chooses to do so in official documents suggests that it believes the language is accurate. Second, if manufacturers really do refer to paper records with contest options as “ballots” and paper records without contest options as “summary cards,” that simply confirms that Plaintiffs are correct about the ordinary meaning of those terms. Defendants’ attempt to pass the buck to the manufacturers shows that Plaintiffs’ construction of the disputed term in the Agreement has widespread support.

In addition to these party admissions by the Secretary, defense counsel have repeatedly admitted that the XL’s paper record is not a “paper ballot.” In meet-and-confer letters preceding the filing of Plaintiffs’ motion, Department of State Chief Counsel Tim Gates referred to the piece of paper generated by the XL as a “vote summary record,” a “paper vote summary

record,” or a “paper record” *eleven times*. FF ¶¶ 23, 25. Gates admits that he chose his words carefully in these letters to his adversaries on the cusp of potential litigation. *See id.* ¶ 26. At no point did Gates call the paper record a “paper ballot.” *Id.* ¶¶ 24, 27.

In contrast, Plaintiffs have never admitted that the XL uses a “paper ballot”—because it does not. There is no evidence that Plaintiffs or their counsel ever called the piece of paper produced by the XL a “ballot” or a “paper ballot.” *Id.* ¶ 30.

4. Contrary to Defendants’ Assertions, the “Paper Ballot” Issue Has Nothing to Do with Whether Ballot-Marking Devices Are Permitted

Defendants attempt to confuse the issue and divert the Court’s attention by arguing that Plaintiffs never expressed opposition to ballot-marking devices (BMDs) in the course of the parties’ negotiations. *See, e.g.*, 2/18 Tr. 97:15-19 (Boockvar) (Q. All right. Did – at the conference you were at, did any member of the Plaintiffs’ team say to you, we are not going to settle on the basis of an initiative that includes ballot-marking devices? A. Never.”); *id.* at 216:25-217:3 (Gates) (“Q. In this conversation about a lemon check, was there any conversation from Mr. Maazel that he was – that lemons would include ballot-marking devices? A. Never.”). Plaintiffs do not argue and have never suggested that the Settlement Agreement forbids BMDs. Whether the Settlement Agreement permits certain kinds of BMDs—it does—and whether the ExpressVote XL uses a “paper ballot”—it does not—are separate matters.

Many BMDs mark true paper ballots that look the same as hand-marked paper ballots and are counted by separate optical scanners. *See* 2/19 Tr. 17:3-11 (Boockvar). The record before the Court includes examples of such ballots. JX 52, JX 60. Any voting system that uses true hand-marked paper ballots with separate optical scanners will likely also use BMDs to accommodate voters with disabilities who cannot hand-mark the paper ballots. *See* 2/18 Tr. 122:11-123:17 (Boockvar). Other BMDs print summary cards instead. And the

ExpressVote XL is not even a BMD in the traditional sense of that term at all. Rather, it is a “hybrid” or “all-in-one” system that combines the functions of casting, recording, and tabulating votes into a single machine. 2/19 Tr. 186:22-187:6 (Baumert).

That the Settlement Agreement does not forbid BMDs is simply irrelevant to the meaning of “paper ballot.” Unlike other BMDs, the XL does not mark a paper record with contest options, so it does not use a “paper ballot.”

B. The XL Does Not Produce a Voter-Verifiable Record of the Vote

The Settlement Agreement provides that the Secretary may only certify a new voting system if it “produce[s] a voter-verifiable record of each vote.” JX 30 ¶ 2(b). On this issue, neither the parties’ intent in agreeing to these terms nor the facts of how the XL works are in dispute.

Defendants acknowledge that “voter-verifiable means verifiable by the voter,” not by a machine or by an auditor. FF ¶ 72. As Secretary Boockvar admitted, “what the voter is supposed to verify under the [S]ettlement [A]greement is their vote.” *Id.* ¶ 73. To comply with the Agreement, a voting system must enable the voter to verify his or her *vote*.

It is undisputed that the XL counts the bar codes, not the words, printed on the paper summary record. *Id.* ¶ 74. The “vote” is the bar code. *Id.* ¶ 75. People cannot read bar codes. Pennsylvania voters are not provided with bar code readers. *Id.* ¶ 75 n.5. The “vote” on the XL is inscrutable to a human being.

Defendants’ counterargument—that many optical scanners also use timing marks, bar codes, or other machine-readable codes to *interpret* the vote—misses the point. It is true that many optical scanners use machine-readable codes to interpret whether a particular oval means a vote for “John” or “Mary,” or for “Yes” or “No.” With a true paper ballot marked by hand or by a BMD, however, the *vote* is the oval on the page. “[T]he mark that the machine is reading is

one that the voter has been able to directly verify with their own senses.” *Id.* ¶ 78. With the XL in contrast, “nothing that the voter has ever seen” or understood “is ever being read by the machine.” *Id.* The Settlement Agreement requires that voters be able to verify the vote. The XL does not allow them to do so.

C. The ExpressVote XL Is Not Capable of Supporting Robust Pre-Certification Auditing

The Settlement Agreement provides that the Secretary may only certify new voting systems “capable of supporting a robust pre-certification auditing process.”² FF ¶ 1. Post-election auditing exists precisely because all voting systems that use software are hackable, in addition to being susceptible to error. *Id.* ¶ 82. The threat that a sophisticated actor might introduce malware to tamper with American election results is not an academic exercise. It is very real. Regardless, the Court’s role on this motion is to interpret and enforce the purpose and intent of the parties’ contractual agreement that only systems capable of supporting robust post-election auditing may be certified. This provision aims to ensure that any computer malfunction or malfeasance—no matter how unforeseeable or unanticipated today—will be detected and will not compromise the integrity of election results. The XL does not meet this standard because its design, unlike that of ordinary BMDs, permits compromised software to tamper with votes *after* the voter has seen the paper record.

a. The Agreement’s Auditing Requirement Must Be Given Independent Force and Meaning

The Agreement’s requirement that voting systems be “capable of supporting a robust pre-certification auditing process” is a third separate requirement that must be given independent force. *See Benchmark Grp., Inc. v. Penn Tank Lines, Inc.*, 612 F. Supp. 2d 562, 579

² Here, “certification” refers to the certification of election returns after the votes are tabulated, not to the certification of election systems by the Secretary.

(E.D. Pa. 2009) (“It is well-established that in construing the terms of a contract, the court must read the contract in its entirety, giving effect to all of the contractual language if possible. No provision within a contract is to be treated as surplusage or redundant if any reasonable meaning consistent with the other parts can be given to it.” (citation and quotation marks omitted)).

Every voting system with voter-verifiable paper records can allow post-election audits in some limited sense. As long as a paper trail exists, one can in principle compare the paper trail to the machine-tabulated results and conduct an audit. If that were all the parties meant by “capable of supporting a robust pre-certification auditing process,” they would have had no reason to include this third requirement at all. The first two requirements already mandate (a) paper ballots that are (b) voter verifiable. If “capable of supporting robust pre-certification auditing” just meant “uses voter-verifiable paper records,” paragraph (c) would be entirely superfluous.

That is not what the parties meant. The requirement that voting systems be *capable* of supporting a *robust* auditing process is intended to ensure that each voting system certified for use in Pennsylvania will actually produce reliable audit results in practice. *See* Robust, Merriam-Webster Dictionary, <https://www.merriam-webster.com/dictionary/robust> (last visited Mar. 13, 2020) (“capable of performing without failure under a wide range of conditions”). This provision demands a hard look at how the voting system really works to ensure that audits run on it will catch any tampering or error in the results. Interpreting this provision to mean anything less would improperly read it out of the Agreement entirely. *Cf. Benchmark Grp.*, 612 F. Supp. 2d at 579.

b. Auditing Only Works If the Paper Record Matches Voter Intent, Which the XL Cannot Guarantee

The XL has unique design vulnerabilities that make it incapable of supporting robust pre-certification auditing.

An audit is only as good as the integrity of the paper record being audited. FF ¶ 83. An audit will only catch a discrepancy from the real election results if the paper record accurately reflects the voter's choice. *Id.* ¶ 84. That is why it is critical to have a paper record of the vote that cannot be modified by computer error or attack. *Id.* ¶ 85. If a hacker can modify the paper record to conform to the hacked electronic record, a post-election audit will falsely *confirm*, rather than detect, the malicious inaccuracy in the results.

The paper record in the XL “goes past the printhead” after the voter has had the chance to review it. *Id.* ¶ 88. That feature is atypical of ballot-marking devices, and Defendants have not introduced evidence of any other voting system that shares it. *Id.* ¶ 107. A sophisticated attacker could introduce malware to cause the XL to cast false votes and print on the vote summary card after the voter sees it, thereby altering the paper record to match a false result. *Id.* ¶ 108. The XL would therefore allow compromised software to tamper with the paper record in a manner that other voting systems do not permit. *Id.* ¶ 106.

The XL also differs from other BMDs in that it temporarily stores the vote in electronic memory before the voter has had the chance to review it and decide to reject or case it. *Id.* ¶ 109. A sophisticated attacker could introduce malware that causes the XL to tabulate *rejected votes*.³ *Id.*

³ Such malfeasance could be detectable by audit, but only if poll workers properly followed procedures for spoiling paper records of rejected votes. *See* 2/19 Tr. 82-83 (Halderman).

c. The Potential Vulnerabilities in the Design of the ExpressVote XL Are Real

Defendants do not deny that the XL's design vulnerabilities could yield hacked election results undetectable by audit. They just minimize the possibility that these vulnerabilities might be exploited. That argument fails as both a matter of contractual interpretation and a matter of fact.

The whole point of audits is to catch glitches or attacks that are not foreseen. The Commonwealth's certification process includes risk assessment and security testing. *See, e.g.*, 2/18 Tr. 76-77. If rigorously testing a voting system were enough to guarantee its security, there would be no need for audits. But it is not. That is precisely why the parties agreed that voting systems certified for use in Pennsylvania must be capable of supporting robust auditing: to guard against vulnerabilities that seem difficult to exploit or that we cannot even conceive of until they occur. Certifying a voting system that one *knows* can be hacked in a manner undetectable by audit defeats the purpose of the Agreement's auditing requirement.

In reality, as Dr. Halderman testified, all voting systems that use software can be hacked. FF ¶ 82. Dr. Halderman is a leading expert in the field, and Defendants presented no expert testimony in any form to dispute his conclusions. *Id.* ¶¶ 90-91. As Defendants' own witness admits, there is presently no "technology available to make paperless voting secure and verifiable," *id.* ¶¶ 95-96, and hardware and software malfunctions do happen despite best efforts to prevent them, *id.* ¶ 97. The "Securing the Vote" report by the National Academies of Science, Engineering, and Medicine, which Secretary Boockvar claims to have considered in charting the Commonwealth's "path" toward paper records or paper ballots, *id.* ¶ 99, makes clear that "[m]alware—malicious software that includes worms, spyware, viruses, Trojan horses, and ransomware—is perhaps the greatest threat to electronic voting." *Id.* ¶ 101; *accord Curling v.*

Raffensperger, 397 F. Supp. 3d 1334, 1354-56, 1401-11 (N.D. Ga. 2019) (surveying “mounting tide of research and testing by the nation’s leading cybersecurity experts in election cybersecurity” showing that electronic voting systems can be hacked).

Nor are the XL machines themselves impregnable fortresses that no skilled attacker could breach. XL machines are largely assembled in Taiwan and China. FF ¶ 112. They are not sealed when they are shipped from the manufacturer to the customer. *Id.* ¶ 113. The Philadelphia County Board of Elections does put its own seals on the machines after testing them, but those are cheap pieces of plastic readily available on the commercial market. *Id.* ¶ 114. On Election Day, the seals are inspected and broken by judges of elections, who are partisan elected officials. *Id.* ¶ 115. The keys to the machines—at least in Philadelphia—are universal, meaning that a single pilfered or copied key would gain access to every machine. *Id.* ¶ 116 (“Q. Same key for every machine? A. Yes.”). The machines are stored in a warehouse to which “upwards” of twenty people have regular access. *Id.* ¶ 117.

The parties agreed that voting systems must be capable of robust auditing precisely because voting systems can be hacked. What is speculative is not the assertion that the XL is vulnerable to attack, but the assertion that it, alone among all electronic voting systems, is uniquely impenetrable.

II. DEFENDANTS HAVE NOT MET THEIR BURDEN OF PROOF WITH RESPECT TO THE AFFIRMATIVE DEFENSE OF LACHES

Defendants fail to meet their burden of proof on their affirmative defense of laches. *Howell v. Bureau of Prof’l & Occupational Affairs*, 38 A.3d 1001, 1005 (Pa. Commw. Ct. 2011). “For a party to prevail on the defense of laches, it must prove both inordinate delay and prejudice from that delay.” *Richland Twp. v. Prodex, Inc.*, 634 A.2d 756, 761 (Pa. Commw. Ct. 1993).

Plaintiffs did not inordinately or inexcusably delay in bringing this motion. To the contrary, for months, Plaintiffs diligently sought information about the Secretary's certification process through the monitoring mechanism set out in the Settlement Agreement. Defendants stonewalled for months. When Plaintiffs had what they thought they needed to responsibly go to court, they promptly began the mandatory meet-and-confer process.

Nor have Defendants or Intervenors (the City of Philadelphia and the Philadelphia County Board of Elections; collectively, "Philadelphia") shown that they were prejudiced by any delay. Their main allegations of delay concern money and potential interference with upcoming elections. But taxpayers will not bear the cost of decertification, and the record shows that it is feasible to switch to a new voting system in time for the 2020 General Election. Adopting a replacement system will surely take time and effort, but the hard work of public officials to respond to changing circumstances does not constitute prejudice supporting a claim of laches.

A. Plaintiffs Did Not Inexcusably or Inordinately Delay in Bringing This Motion

Defendants' assertion that Plaintiffs have delayed in filing this motion is based upon a fundamental misunderstanding of the parties' obligations under the Settlement Agreement. The Agreement states that "a designee of Plaintiffs will be invited to observe the certification process." FF ¶ 130; JX 30 ¶ 4. That is the one and only method of monitoring contemplated by the Agreement concerning Defendants' certification of voting systems. FF ¶ 131. Defendants failed to invite Plaintiffs to observe the XL certification process. They stonewalled Plaintiffs' diligent efforts to get information to which they were entitled for months. Now, they suggest that Plaintiffs should have known what was happening all along based upon some shorthand numerical references in a chart attached to an email. That is completely wrong.

Defendants did not invite Plaintiffs' designee, Dr. Halderman, to observe the certification process of the XL. FF ¶ 134. They did not tell Dr. Halderman that there had been

testing of the XL nor provide him with video of the testing that had occurred. *Id.* ¶¶ 135-36. Instead, they certified the XL two days after the Agreement was signed without telling Plaintiffs. *Id.* ¶ 132. Defendants never communicated the certification of the EVS 6021 suite, which includes the XL, to Plaintiffs. *Id.* ¶ 137. Not to Dr. Halderman, not to counsel. *Id.* ¶ 139. Not promptly when the certification occurred, not months later. *Id.* ¶ 138. Never. And the record contains no evidence that Plaintiffs became aware of the certification by other means at or around the time it happened.

After Dr. Halderman became aware that testing of ES&S systems had occurred, he tried to get the video of that testing so he could understand how the system worked. Even before the Settlement Agreement was signed, Defendants established a practice of providing Dr. Halderman with videos of certification testing he was unable to attend in person. *Id.* ¶ 141. From Dr. Halderman's perspective as an expert and as Plaintiffs' designee in the certification process, there is "no substitute" for seeing the actual testing of a voting system, whether in person or by video. *Id.* ¶ 163.

Dr. Halderman or Plaintiffs' counsel requested videos of ES&S testing ten times between January and June of 2019. *Id.* ¶ 144. Each time, Defendants either failed to respond, promised to respond but did not, or invented excuses for failing to respond. *Id.* ¶ 145. The main excuse—that Defendants needed to let the vendors review the videos for proprietary information—made no sense, as the videos were of official proceedings open to the public. *Id.* ¶¶ 144, 149. After persistent efforts to follow up by Dr. Halderman and Plaintiffs' counsel, Defendants finally provided the ES&S videos on June 5, 2019. *Id.* ¶ 159. Dr. Halderman got married and went on a honeymoon in June and reviewed the ES&S videos "in the beginning of July." *Id.* ¶ 164. Dr. Halderman learned important information, including the fact that the paper

record in the XL passes back past the printhead, from the videos when he finally got them. *Id.* ¶¶ 165-66. On July 29, 2019, Plaintiffs began the meet-and-confer process that led to this motion. *Id.* ¶ 170.

In the face of this evidence, Defendants claim that Plaintiffs should have pieced together the facts they needed from an attachments to a September 28, 2018 email from defense counsel Sue Ann Unger (JX 12, attached to JX 14) and information in the public domain. But the “poll book report” attachment was inaccurate and misleading in multiple respects: It did not make clear which voting systems were in which suite, including which variants of ES&S’s “ExpressVote” line of products, or which configurations of those systems. *Id.* ¶¶ 121-23. Ms. Unger’s email also stated that the poll book report included voting systems that “will be presented for examination,” when in fact it also included some systems that had already been tested and some that would not be considered for certification in Pennsylvania at all. *Id.* ¶¶ 124-25. Plaintiffs’ counsel noted the inaccuracy and requested “a more granular list of which particular machines/election systems are being proposed for certification.” *Id.* ¶ 127.

Defendants never provided such a list. *Id.* ¶ 128. As a result, Plaintiffs never *had* such a list before the Agreement was signed. At that point, it became *Defendants’ obligation* to invite Plaintiffs to participate in the certification process. With respect to the XL, Defendants failed to do so. Instead, they certified the system two days after the Agreement was signed without saying so.

Under no circumstances can Plaintiffs be held responsible for any purported “delay” from the beginning of the meet-and-confer process on July 29 until the filing of their motion on November 26. No delay occurred. The Settlement Agreement requires Plaintiffs to meet and confer in a good-faith effort to resolve their differences before seeking judicial relief.

See JX 30 ¶¶ 14-15. Defendants’ argument that Plaintiffs should have sought relief *without* waiting for Defendants to respond or allowing the meet-and-confer process to play out is absurd. Cf. Defs’ Br. in Opp’n to Mot. to Enforce Settlement Agreement (“Defs.’ Opp’n,” Dkt. #123) at 32. Plainly, as Defendants acknowledged, the point of requiring Plaintiffs to confer before going to Court is to give the parties a chance to persuade each other of their positions and resolve the issue without court intervention. FF ¶ 171; see *Laudig v. Laudig*, 624 A.2d 651, 654 (Pa. Super. Ct. 1993) (courts must interpret contractual provisions in a manner that avoids absurd results and effectuates the reasonable result the parties intended).

Plaintiffs did so in good faith. See generally FF ¶¶ 168-185. Defendants, in contrast, sought to drag out the meet-and-confer process while simultaneously creating facts on the ground. Defendants sought a two-week extension to provide their initial two-page response. *Id.* ¶ 173; JX 47. In the interim, they recertified the XL without notifying Plaintiffs. FF ¶¶ 174-75. When Plaintiffs continued the meet-and-confer process by sending another letter, Defendants took a full 29 days to respond. *Id.* ¶¶ 178-79. Far from being inexcusable, Plaintiffs’ diligent, good-faith efforts to confer with Defendants are exactly what the Settlement Agreement contemplates.

Moreover, the principle underlying the doctrine of laches is that “acquiescence is presumed from delay.” *Nilon Bros. Enters. v. Lucente*, 461 A.2d 1312, 1314 (Pa. Super. Ct. 1983) (citation and quotation marks omitted); accord *Beech v. Ragnar Benson, Inc.*, 587 A.2d 335, 337 n.1 (Pa. Super. Ct. 1991). Once Plaintiffs put Defendants on formal notice of their position that the XL violated the Settlement Agreement, no one could have possibly “presumed” that Plaintiffs “acquiesce[d]” in the XL’s certification or use. Laches therefore cannot apply.

See Merlino v. Plains Twp., 405 A.2d 1032, 1034 (Pa. Commw. Ct. 1979) (declining to apply laches to period of time involving “continuing negotiations” about the subject of litigation).

B. Neither Defendants Nor Intervenors Have Been Prejudiced By Any Delay

The principal grounds on which Defendants and Intervenors claim prejudice are the expenditure of public funds and the possibility of disruption to upcoming elections. Defs.’ Opp’n 32-34; Intervenors’ Br. in Opp’n to Mot. to Enforce Settlement Agreement (Dkt. #131-1) at 20-21. But ES&S, not the taxpayer, bears the costs of decertification. And the record shows that it is feasible for Philadelphia to implement a new voting system in time for the November 2020 General Election. To the extent the Court finds otherwise, it can tailor appropriate relief to require decertification in time for elections in 2021.

It is undisputed that ES&S bears the financial consequences of decertification. FF ¶ 187. As Plaintiffs have repeatedly pointed out, in the event the XL is decertified, the contract between Philadelphia and ES&S requires ES&S to provide certified replacement voting systems “at no cost.” *Id.*; PX 1004 art. XII. Neither Defendants nor Intervenors have ever presented any evidence or argument to the contrary.⁴ FF ¶¶ 187-88. ES&S is also liable to the City for “any and all reasonable costs” incurred in connection with using such new equipment—i.e., ancillary expenses like trucks, warehouses, the costs of training sessions, etc. PX 1004 art. XII. Remarkably, no one from Philadelphia appears to have been aware that ES&S has effectively indemnified taxpayers in this situation. The Procurement Commissioner who signed the contract claimed ignorance of its terms, 2/19 Tr. 329:22-331:25 (Nesmith-Joyner); the City Solicitor purports to have approved it only “as to form,” PX 1004 at 30; and the Executive Director of the Board of Elections was unfamiliar with it, 2/21 Tr. 36:25-37:12 (Lynch).

⁴ Nor has ES&S, which has appeared as *amicus* and had counsel present at the entire hearing.

Philadelphia can implement new voting systems in time for the 2020 General Election. *See* FF ¶ 210. Even Secretary Boockvar testified that doing so would merely be difficult, not impossible. *Id.*; 2/18 Tr. 41:24-43:18, 124:3-10, 159:7-13 (Boockvar). Under ordinary, non-emergent circumstances, Philadelphia was able to smoothly run an election with the XL 258 days after selecting it. FF ¶¶ 205-06. Montgomery County, the Commonwealth’s third most populous county, ran the 2019 General Election with a new voting system 173 days after selecting it. *Id.* ¶ 208. If the Court promptly grants relief, Philadelphia will have a similar amount of time to implement a new system.

Nor does the City’s labyrinthine procurement process provide a basis for Philadelphia to claim prejudice. The City need not conduct a new procurement process at all because ES&S must provide it with replacement machines. *Id.* ¶ 212. In the event a procurement process is necessary, the City has a range of emergency procurement procedures available to meet urgent needs. *See id.* ¶¶ 213-17. Even if the City unnecessarily chooses to conduct a full “Best Value” procurement process for new machines—a process the City did not properly follow last time, *see* 2/21 Tr. 21:11-15 (Nesmith-Joyner)—that process will be shorter the second time around. FF ¶ 221. It is absurd to think that the City would allow upcoming elections to be jeopardized because the City’s Local Contract Opportunity Review Committee (LCORC) only meets once a month to determine whether a request for proposals is sufficiently solicitous of local bidders. *Cf.* 2/19 Tr. 347-38 (Nesmith-Joyner). Plaintiffs are not responsible for the glacial pace of the City’s inscrutable bureaucracy.

Moreover, Defendants’ and Intervenor’s actions show that their claims of prejudice ring hollow. Plaintiffs and Defendants engaged in what Plaintiffs believed to be a good-faith meet-and-confer process from late July 2019 through early November 2019. *Not once*

during that process did Defendants suggest, verbally or in writing, that time was of the essence or that Plaintiffs should reconsider their course of action to avoid prejudice to the public. FF ¶ 183. The first time Defendants made any mention of the issue was in their opposition to Plaintiffs' motion, after hiring outside private litigation counsel. *Id.* ¶ 184. If Defendants' concerns were genuine, why not raise them to try to persuade Plaintiffs to take a different course?

Since July 16, 2019, when a petition to reexamine the XL was filed with the Secretary, Philadelphia has known that Plaintiffs or others objected to the continued certification of the machine. JX 42; 2/21 Tr. 20:1-2 (Lynch) (Board of Elections aware of petition). In the approximately eight months since, the City and the Board of Elections have done nothing to prepare for the possibility of decertification. The Board of Elections has not made contingency plans. FF ¶¶ 197-99. It has not conducted research about other voting systems that have been certified in the intervening months, to be better prepared to select a new system in the event it needs to do so. FF ¶¶ 200-01. It has not familiarized itself with its contractual remedies against ES&S. FF ¶ 188. Nor has the Procurement Department begun revising its request for information or request for proposals in the event it needs to issue new ones. FF ¶ 220. If the potential prejudice is so great, why do nothing to try to mitigate it? *See Richland Twp.*, 634 A.2d at 761 (holding no laches where any prejudice to defendant was attributable to "its own lack of responsiveness to enforcement action").

Plaintiffs do not doubt that public officials and government employees worked hard to implement the XL and acknowledge that it will take more work by those same officials and employees to implement a new voting system. But the mere fact that such persons worked hard to perform their official duties is insufficient to establish the kind of prejudice that the defense of laches requires. *See Leedom v. Thomas*, 373 A.2d 1329, 1333 (Pa. 1977) ("[T]he time

and effort expended by [defendant] in connection with the exercise of his duties of office do not establish that he was prejudiced by the delay. While these efforts are commendable, we cannot say that his attempt to conscientiously carry out his responsibilities constitutes prejudice sufficient to sustain the defense of laches.”).

Finally, Defendants agree that Philadelphia should be able to comfortably implement a new voting system by the 2021 General Election. *See* 2/18 Tr. 159:14-20 (Boockvar) (“Q. If the Secretary decertified the XL tomorrow, when, in your view, should Philadelphia be able to use a different system? A. I mean, I would probably recommend another 18 months. Q. So General Election 2021? A. Yes.”). To the extent the Court finds that unfair prejudice would result from granting Plaintiffs’ requested relief—decertification for the 2020 General Election—the appropriate course is not to deny the motion, but to order decertification for 2021. *See Curling*, 397 F. Supp. 3d at 1407-12 (denying preliminary injunction against DREs in August 2019 as to 2019 general election but granting as to March 2020 primary).

CONCLUSION

The Court should order the Secretary of the Commonwealth to decertify the ExpressVote XL in time for the November 2020 General Election.

Dated: March 16, 2020

EMERY CELLI BRINCKERHOFF & ABADY
LLP

/s/

Ilann M. Maazel, Esq.*

Douglas E. Lieb, Esq.*

600 Fifth Avenue, 10th Floor

New York, NY 10020

Phone: 212-763-5000

Fax: 212-763-5001

Email: imaazel@ecbalaw.com

** Admitted pro hac vice*

MONTGOMERY McCRACKEN WALKER &
RHOADS LLP

John G. Papianou, Esq.

Brett Waldron, Esq.

1735 Market Street

Philadelphia, PA 19103

Phone: 215-772-7389

Attorneys for Plaintiffs